

## Abstract

A composite bipolar plate of polymer electrolyte membrane fuel cells (PEMFC) is prepared as follows: a) preparing a bulk molding compound (BMC) material containing a vinyl ester resin and a graphite powder, the  
5 graphite powder content of BMC material ranging from 60 wt% to 80 wt%, based on the compounded mixture; b) molding the BMC material from step a) to form a bipolar plate having a desired shape at 80-200°C and 500-4000 psi, wherein the graphite powder is of 40 mesh - 80 mesh.